

Milk Quality and Products

Event Rules

All members participating in this Career Development Event must meet the eligibility requirements and adhere to the rules of the Kentucky FFA Association as outlined in the Rules Governing FFA Activities document.

Number of members on a team: Four (All four scores count toward the total team score.)

Official Dress Appropriate: No

Regional Event: None

State Event: State FFA Convention

EQUIPMENT

Equipment provided by student:

- Clipboard
- #2 Pencil
- Non-programmable Calculator

MILK FLAVOR IDENTIFICATION AND EVALUATION (100 POINTS)

Participants will score ten milk samples on flavor defect (taste and odor.)

Participants will score each sample using a whole number from 1-10. 10 points will be awarded for each correctly scored sample. It will be 5 points for correct identification of the sample and 5 points for the correct score. One point will be deducted for each space the sample is placed away from the official flavor score.

Participants will identify a flavor defect for each sample. Possible defects are:

Acid	Bitter
Feed	Flat/Watery
Foreign	Garlic/Onion
Malty	Oxi-dized
Rancid	



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Participants should mark the most significant defect even if more than one defect is present. If no defect is present, mark "No Defect."

Milk samples will be prepared from pasteurized whole milk intended for table use. Samples will be at 60 degrees F.

The following chart will be used for scoring defects. The chart will NOT be provided during the contest and participants cannot bring one into the event.

Defects	Scores*		
	Slight	Definite	Pronounced
Acid	3	2	1
Bitter	5	3	1
Feed	9	8	5
Flat/Watery	9	8	7
Foreign	5	3	1
Garlic/Onion	5	3	1
Malty	5	3	1
No defect	10	10	10
Oxidized	6	4	1
Rancid	4	2	1
Salty	8	6	4

**Suggested scores are given for three intensities of flavor. All numbers within the range may be used. Intermediate numbers may also be used; for example, a bitter sample of milk may score four.*

Fifteen minutes is allowed for this component of the event.

All sample evaluations will be placed on a product scorecard. An example is provided at www.kyffa.org

PRODUCT IDENTIFICATION (100 POINTS)

A total of five samples consisting of dairy and non-dairy products will be identified and assigned a milk-fat content score.

The following products may be included in the samples:

- Dairy Products: nonfat (skim) milk (.05%), low fat milk (1%), reduced fat milk (2%), milk (3.25%), half and half (10.5%), butter (80%), sour cream (18%), flavored milk (.05%-3.25%), light whipped cream (30%), heavy cream (36%).
- Non-Dairy Products: margarine, non-dairy creamer, non-dairy sour cream, non-dairy milk, non-dairy flavored beverage, and non-dairy whipped topping. All of these are to be categorized as non-dairy fat.



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Six points will be given for each sample that is correctly identified. 4 points will be given for proper identification of the fat content.

Samples will be identified using the provided score card. An example is posted at www.kyffa.org

GENERAL KNOWLEDGE EXAMINATION (120 POINTS)

Participants will answer sixty (60) objective type questions related to milk production and marketing.

Each question is worth two points.

Thirty minutes will be allowed for this component of the event.

The resources used to develop the examination are posted at www.kyffa.org

PROBLEM SOLVING (50 POINTS)

Participants will complete ten multiple choice questions related to the following:

- Decisions about the quality and acceptability of milk.

- Calculations of the value of milk and components of milk.

- Decisions about nutritional value of milk and milk products.

- Decisions about the use of chemicals in cleaning and sanitizing operations.

Twenty minutes will be allowed for this component of the event.

CHEESE IDENTIFICATION (100 POINTS)

Ten cheese samples for identification will be selected from those listed. Cubes of cheese will be available for tasting. Note: More than one sample of a given cheese may be used. A score of four points is given for each variety correctly identified.

Participants will classify characteristics of identified cheeses using the following matrix. A copy of the matrix will NOT be provided and participants cannot bring one into the event. Participants will have six characteristics to select based on 10 identified cheese samples. An example, cheese characteristic problem can be found at www.kyffa.org Characteristics to be identified include moisture percentage, fat percentage, pasta filata, brine/surface salted, ripened by, and origin. Six points will be awarded for each set of questions that is answered correctly.



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Fifteen minutes will be allowed for this component of the event.

Samples will be identified using the provided score card. An example is posted at www.kyffa.org

Cheese Characteristics Matrix

A description of major varieties of cheeses popular among American consumers.

Variety	Moisture (%)	Fat (%)	Pasta	Brine/Surface	Ripened by	Origin
Blue/Bleu	46	50	no	yes	mold	France
Brie	52.5	20	no	no	bacteria and mold	France
Cheddar Mild	39	50	no	no	bacteria	England
Cheddar Sharp	39	50	no	no	bacteria	England
Colby	40	50	no	no	bacteria	US
Cream	55	33	no	no	unripened	US
Feta	60	42	no	yes	bacteria	Greece
Gouda/Edam	45	48	no	yes	bacteria	Netherlands
Havarti	54	30	no	no	bacteria	Denmark
Gruyere	39	45	no	yes	bacteria	Switzerland
Monterey Jack	44	50	no	no	bacteria	US
Mozzarella	60	45	yes	yes	bacteria	Italy
Muenster	46	50	no	no	bacteria	France
Parmesan	32	32	no	yes	bacteria	Italy
Processed	40	50	no	no	bacteria	US
Provolone	45	45	yes	yes	bacteria	Italy
Queso Fresco	59	18	no	no	unripened	Mexico
Ricotta	73	4	no	no	unripened	Italy
Swiss	41	43	no	yes	bacteria	Switzerland

¹Some cheeses have a range in moisture permitted, but these are the highest permitted amounts.

²Some cheese standards use percentage by weight of total solids (e.g., cheddar) while others use percentage by weight of the cheese (e.g., cream).

³Curd is stretched in hot water to align the protein molecules and provide stretch to the curd



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Scoring

Possible score for each participant is 420 points, with a possible team score of 1680 points.

Teams will be ranked in numerical order on the basis of the final team score.

Individuals will be ranked in numerical order on the basis of the final individual score.

TIEBREAKER

Ties will be broken based on the team with the highest combined score on the general knowledge examination.

